

INCH-POUND

A-A-59259  
30 June 1998

## COMMERCIAL ITEM DESCRIPTION

## TRUCK, AIRCRAFT REFUELING, HYDRANT

The General Services Administration has authorized the use of this commercial item description by all federal agencies.

1. **SCOPE.** This commercial item description covers the general requirements for a hydrant truck used for fuel servicing military and commercial aircraft on Government installations. The vehicle shall be capable of servicing aircraft from ground discharge hoses or lift platform discharge hoses when equipped, at fueling rates up to 750 gallons per minute and when equipped, defuel at rates of 300 gallons per minute on a Type III hydrant system. The truck shall be air transportable in type C-130, C-141, C-17, and C-5 aircraft.

**2. SALIENT CHARACTERISTICS.**

2.1 **Safety.** The truck shall comply with all applicable requirements of the Federal Motor Carrier Safety Regulations (49CFR 393), Federal Motor Vehicles Safety Standards (49CFR 571), and OSHA standards in effect at the time of manufacture. The principal walking surfaces shall be of an anti-skid self-cleaning type.

2.2. **Design and construction.** The vehicle shall be designed to comply with all applicable requirements of SAE APR 1247 and NFPA 407, and shall have a 12 year minimum life expectancy. All components which come into contact with fuel shall be compatible with fuels conforming to ASTM D1655, MIL-PRF-5624, MIL-T-25524, and MIL-T-83133.

2.3 **Maintainability.** All assemblies, controls, and installed equipment shall be located so that there is no interference with each other or the operation, and shall be readily accessible for maintenance, operation, removal, and replacement using common hand tools. All operating controls and servicing shall be so designed to allow access by personnel wearing arctic clothing and mittens/gloves.

2.4 **Environmental requirements.** The vehicle shall be capable of satisfactory storage, start and operation under the following environmental conditions with truck stabilized at:

- a. Temperatures ranging from -40° F to +125° F.
- b. Exposure to relative humidity up to 100 percent.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use improving this document should be addressed to: WR-ALC/LER, 225 Ocmulgee Court, Robins AFB GA 31098-1647, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

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- c. Exposure to salt fog consistent with a seaside environment.
- d. Exposure to sand and dust particles as encountered in desert areas.

2.5 Truck Chassis and Cab. The hydrant truck shall consist of a standard commercial truck chassis and cab, Type I, Class D, in accordance with FED-STD-794 and as specified herein. The vehicle shall have a wall to wall turning diameter not to exceed 64 feet. The chassis shall be equipped with driveshaft guards positioned to prevent any driveshaft from contacting any fuel containing component in the event of failure.

2.5.1 Cab. In addition to the cab requirements in FED-STD-794, the standard cab shall be equipped with two interior lights with a minimum capacity of 30 foot-candles. The lights shall be of proper size, location, and intensity for reading manuals while seated in the cab or standing at the open driver's cab door during night operations. An air conditioning system complying with the requirements of FED-STD-794 shall be provided. The cab shall not be furnished with a cigar lighter or radio.

2.5.2 Exhaust System. The exhaust system shall meet the requirements specified in FED-STD-794 and modified to meet the requirements of NFPA 407. No portion of the exhaust system shall extend to the rear of the cab.

2.5.3 Transmission. The vehicle shall be equipped with an automatic transmission meeting the requirements of FED-STD-794. When defuel capability is specified, the transmission shall be equipped with a dual lockout solenoid to automatically lock it in the high speed range when the PTO is engaged and remain locked at all throttle positions from idle speed to maximum rpm. The dual lockout solenoid is not required if an electronically controlled transmission is supplied that will ensure lock-up at all engine speeds.

2.5.4 Power Takeoff PTO. When defuel capability is specified, a split shaft power takeoff shall be furnished. The power takeoff shall have sufficient capacity to drive the pump under the maximum load conditions to be encountered during operation of the truck. The power takeoff and pump gear box ratios shall be selected to provide pump operations at sufficient engine speed to assure adequate engine and gearbox lubrication and cooling. The power takeoff and pump gear box ratios shall also provide stall free pump operation and engagement during low temperature operations and at engine idle.

2.5.4.1 Power takeoff control. The power takeoff shall be air-operated, unless it is a part of the electronic transmission shift assembly, and controlled by the driver while sitting in the driver's seat. The control lever shall not interfere with normal operation of the transmission or access to the driver's seat. Other controls shall be installed as required to provide a positive, smooth mechanical engagement. Any engagement device which can cause or allow clashing of mechanical parts or heavy shock loading is not acceptable. The selected position of the PTO shall be maintained by air pressure and/or mechanical linkage.

2.5.4.2 Power takeoff safety devices. An interlock system shall be provided to prevent simultaneous propelling of the truck and operation of the pump. An interlock system shall be provided to prevent engagement or disengagement of the power takeoff control unless the engine is at idle speed, transmission in neutral and the parking brakes are applied. A safety device shall be provided to prevent

the use of the auxiliary throttle when the power takeoff is in the vehicle drive position. A safety device shall be provided to prevent the use of the accelerator pedal when the power takeoff is in the pump mode. A positive indicator device shall be installed to show when the PTO is in pump mode; the indicator shall be mechanically actuated by the PTO shifter shaft.

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2.5.5 Electrical System. The wiring system and electrical components shall be in accordance with NFPA 407 and SAE ARP 1247. All wiring rear of the cab shall be run in plastic/metallic tubing and shall utilize vapor proof connectors. All electrical enclosures shall be vapor proof.

2.5.5.1 Floodlight. A fully adjustable floodlight shall be provided on the forward left side of the vehicle. The light shall illuminate the entire left side of the vehicle. An individual switch and adjusting handle shall be provided to allow operation from the ground. The light shall not operate unless the vehicle's parking lights are on. The light shall have a minimum of 1000 candlepower.

2.5.6 Air and Brake System. The air system shall comply with the requirements of FED-STD-794 and modified as necessary to meet the requirements specified here in. An auxiliary air line, with a standard ¼ inch quick disconnect type air coupling, shall be provided at the front and rear of the vehicle. A brake interlock override valve, to be used in emergency situations, shall be mounted in a protected location inside the cab, sealed in the "non override" position.

2.5.7 Chassis Winterization. Power plant heaters and fuel warmer as specified in FED-STD-794 shall be provided except that the system shall operate on 110 and 220 volt, 50 or 60 cycle, alternating current (AC). The winterization system shall also incorporate a battery heater and charger.

2.6 Mounted Equipment. The hydrant truck shall consist of the mounted equipment necessary to fuel and when equipped, defuel, aircraft on a Type III hydrant system. All metallic components which come into contact with fuel shall be fabricated of aluminum or 300 series stainless steel. All aluminum piping and unprotected aluminum surfaces subject to corrosion or abrasion shall be anodized in accordance with standard commercial practice. There shall be no copper based materials used in contact with fuel except as specified herein. Copper based materials may be used in couplings, drain valves, and gauges.

2.6.1 Flow and Pressure Control System. The control system shall consist of the necessary control valves, pilot valves, selector controls, automatic controls, venturis, gauges, surge suppressors, and safety devices necessary to regulate the pressure and flow of fuel during refueling and when equipped, defueling, on the specified hydrant systems.

2.6.1.1 Flow Control system. The flow control system shall provide flow rates from 0 to 750 gallons per minute (GPM) through the ground discharge hose(s) and when equipped the lift platform hose(s) and shall not allow the rated flow of the fuel filtration system to be exceeded.

2.6.1.2 Pressure control system. A primary and secondary pressure control system shall be provided. The primary pressure control shall be set to independently control the fueling pressure at the nozzle. The primary pressure control is the hydrant pit control valve on the Type III hydrant systems. The secondary pressure control shall be set to control the nozzle pressure if the primary control fails to control pressure at the nozzle. The pressure control system shall limit pressure at the inlet to the discharge nozzle(s) to a maximum of  $50 \pm 5$  pounds per square inch (psi) under all dynamic flow conditions. The pressure control system shall limit pressure surges under all conditions to 120 psi at the discharge nozzle, including a one second shutdown at the aircraft. The pressure surge during quick shutdown at the aircraft shall not exceed the published rating of any component in the fuel flow system. The pressure control system shall have a fuel pressure sensed from a venturi(s) or some form of pressure compensator to simulate nozzle pressure at the discharge nozzle(s). If an in-line pressure control valve or other adjustable compensating system is provided as the secondary control, the opening rate shall be adjustable from 5 to 25 seconds. The closing rate shall be adjustable from 10 to 30 seconds.

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2.6.2 Defuel System. When specified (see 6.1), the hydrant truck shall be provided with a defuel system. The hydrant truck shall be capable of defueling aircraft through the ground discharge hose(s) and when equipped the platform hose(s). The defuel system shall be capable of defueling at a rate of 0 to 300 GPM with a hydrant pressure of 160 psi. The defuel suction line shall incorporate an 8 mesh low pressure drop strainer that is easily removed for cleaning.

2.6.3 Lift Platform. When specified (see 6.1), the hydrant truck shall be provided with a variable height lift platform. The lift platform shall be located adjacent to the rear of the cab and shall be provided with two discharge hoses for servicing commercial type wide bodied aircraft (Boeing 777, McDonnell-Douglas DC-10, etc.). The platform shall have provisions for storing the platform discharge hoses. The platform shall be equipped with aluminum guard rails with entry gate and a toe plate and shall meet all requirements of 29CFR 1910.67; an access ladder or steps; an emergency escape ladder; nozzle pressure gauge; lift controls and manual override; and emergency engine shutoff. The lift platform shall raise from the stowed position to the height required to allow a small human as defined by SAE J833 to service a Boeing 777 aircraft at the under wing receptacle. Provisions shall be made for easy entry and exit of the platform. The platform shall raise and remain at any selected height with two 250-pound operators onboard. There shall be no signs of excessive lean, sway, or instability that would constitute an unsafe operating condition of the fully loaded platform in any position. The platform shall be capable of being fully raised or lowered in not less than 15 seconds or more than 35 seconds. A means shall be provided to prevent rapid accidental lowering of the platform in the event of hose or other component failure. A lowering device (manual override) that will override the main control and provide a smooth controlled lowering of the platform shall also be provided in a convenient location accessible by the operator from the ground. The lift platform shall have a wing stop control which will stop the platform from lifting if the highest portion of the lift comes in contact with the aircraft wing. The lift platform system shall incorporate a safety interlock that sets the parking brakes when the lift platform is not in the full down position. The platform shall have a minimum 2000 pound lift capacity. The platform deck shall not exceed 48 inches from the ground when in the stowed position.

2.6.4 Fuel Filtration System. The filter vessel shall be a horizontal unit designed, manufactured, and qualified in accordance with the current requirements of the Institute of Petroleum (IP) Specification and Qualification Procedures for Aviation Fuel Filter Monitors with Absorbent Type Elements. When specified (see 6.1) a horizontal filter separator in accordance with American Petroleum Institute (API) Bulletin 1581 Group II, Class C shall be provided except that the free water limit is 10 milligrams per liter (10 ppm) and additive I shall be STADIS 450 manufactured by E.I. duPont de Nemours Company. The fuel filtration system shall be rated for the maximum flow rate and working pressure of the hydrant truck. The filtration system shall be installed in the system so that all fuel passes through the filter vessel in only one direction to provide clean, dry fuel.

2.6.4.1 Pressure vessel. The filter vessel shall be designed and fabricated in accordance with the ASME Boiler and Pressure Vessel Code for unfired pressure vessels. The vessel shall be inspected and stamped by a qualified ASME inspector. The pressure vessel shall be constructed of aluminum or stainless steel. The lowest point of the vessel shall be equipped with a 3/4 inch drain plug for draining all fuel from the filter vessel. A pressure relief valve shall be provided.

2.6.4.2 Air eliminator. An air eliminator shall be provided in the top of filter vessel to allow automatic purging of air from the pumping system. The eliminator shall be vented into a suitable location and shall not allow the backflow of air into the filter vessel. The air eliminator shall have an orifice 1/8 inch or less in diameter.

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2.6.4.3 Water slug control. When a filter separator is specified, a water slug control valve with check feature shall be provided to stop the flow of fuel when a predetermined water level is reached in the vessel and then permit fuel flow when the water level is lowered to a predetermined level.

2.6.4.3.1 Float-actuated selector valve. The float actuated selector valve used in conjunction with the flow shut off system shall include provisions which permit manual movement of the float through its complete range for testing when installed and the system is pressurized. The manual adjustment shall be accessible by an operator standing on the ground.

2.6.4.4 Manual water drain. The water sump of the filter vessel shall be equipped with a one inch manually operable stainless steel ball type valve with a spring return handle that renders the valve normally closed. The drain shall be easily accessible to an operator standing on the ground. A grounding braid shall be attached to the pipe with less than 10 ohms of resistance between the braid and chassis; the braid is to be used for grounding to a drain bucket.

2.6.4.5 Filter separator check valves. All fuel lines entering and exiting the lower portion of the filter vessel shall be equipped with check valves as necessary to keep the vessel full of fuel after initial filling of the filter separator. The only means to drain the filter separator shall be the manual drain valve and lower chamber drain plug.

2.6.4.6 Gauge connection. The differential pressure gauge shall be connected to continuously monitor the pressure loss across the monitor/coalescer elements, including the water-separation stage when a filter separator is specified.

2.6.4.7 Element sealing. Monitor/coalescer element shall incorporate an o-ring seal on the outlet end.

2.6.5 Piping. All piping shall be securely mounted to the vehicle to prevent chaffing and vibration during all modes of vehicle operation. All valves/components shall be coupled to the piping using groove type couplings or flanged connections. The piping shall be seamless schedule 40 aluminum or seamless schedule 10 TP 304L stainless steel in accordance with ASTM A 312. The piping shall not extend past the rear bumper and aluminum piping shall utilize cut grooves for the groove type couplings. All piping shall be positioned so it is protected by the chassis rails or mounted equipment. Step platforms shall be provided as necessary to prevent mechanics from stepping on piping or valves while performing maintenance. The piping system shall incorporate a one inch minimum drain valve at the lowest point.

2.6.6 Flow Meter. A flow meter to record all fuel dispensed or defueled shall be provided and shall be located downstream of the filter separator. The meter shall be capable of being calibrated to  $\pm 0.1$  % between 80 and 800 GPM. A 0 to 1000 GPM flow rate indicator shall be provided and shall have an accuracy of  $\pm 5$  % of its full scale. The meter readout shall be visible from a distance of at least 15 ft during day or night operations.

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2.6.7 Hose Reels. The hose reels shall be designed for servicing with any portion of the hose unwound. The hose reel shall rewind the entire flooded hose at a rate of 1.5 feet per second or greater. The hose reels shall be of the top pull type. The hose reel drum size shall be in accordance with API Bulletin 1529. The hose reels shall be powered by an air operated motor rated for the specified hose reel capacity. The rewind assembly shall incorporate a clutch and brake assembly. The fluid path shall be aluminum or stainless steel. The reels shall also be furnished with a manual crank for emergency rewinding. Provisions shall be made for storing the crank on the vehicle. The reel shall be designed to prevent the last 1/2 turn of hose from unwinding from the reel. Stainless steel guide rollers utilizing permanently lubricated metal bearings shall be provided to prevent damage to the hose while winding or unwinding. All moving parts (drive chains, gears, etc.) shall be equipped with protective coverings to prevent injury to the operator.

2.6.7.1 Hose Reel Rewind Control. The hose reel rewind control switch shall be positioned so the operator can operate the switch with one hand and guide the hose on the reel with the other hand.

2.6.7.2 Hydrant Hose Reel. The hydrant hose shall be stored on a hose reel located on the left (driver side) of the vehicle. The hose reel shall be capable of storing 50 feet of 3 inch API 1529 hose. The hydrant coupler shall be no higher than 3 feet above the ground when in the stowed position.

2.6.7.3 Discharge Hose Reels. The ground discharge hoses shall be stored on two hose reels located on the rear of the vehicle facing rearward. Each reel shall be designed to store 75 feet of 2 1/2 inch API 1529 hose.

2.6.8 Nozzles and Couplers. Each discharge hose shall be equipped with a dry break coupler and a 40 mesh stainless steel strainer. Unless otherwise specified (see 6.1) a type D-1 single point nozzle in accordance with MIL-N-5877 shall be provided on the ground discharge hoses. The platform hoses shall be equipped with a type D-2 single point nozzle in accordance with MIL-N-5877. Each single point nozzle shall be equipped with an automatic vacuum break assembly. The hydrant hose shall be equipped with a 4 inch API style coupler conforming to API Bulletin 1584. The hydrant and servicing nozzles shall have receptacles with interlocks which prevent the parking brake from releasing unless the nozzles are properly stored.

2.6.9 Servicing Hoses. The vehicle shall be equipped with a hydrant hose, two ground discharge hoses and when a lift platform is specified two platform servicing hoses. All hoses shall conform to API 1529, Grade 2, Type C with Military Addendum. The hoses shall be equipped with couplings in accordance with API 1529 Section 7. The coupling shall be of two piece construction, internally expandable, non-reattachable design constructed of high strength corrosion resistant metal.

2.6.9.1 Hydrant Hose. The truck shall be equipped with one 3-inch inside diameter hydrant hose 40 feet in length.

2.6.9.2 Discharge Hoses. The ground discharge hoses shall be 2-1/2 inch inside diameter and 60 feet in length.

2.6.9.3 Lift Platform Hoses. The lift platform discharge hoses shall be 2-1/2 inch hoses. The hose length shall allow a large human as defined in SAE J 833 to connect to a single point nozzle five feet on either side of the truck center line. Provisions shall be made for storage of the hose on the lift platform, so the hose will not be chaffed, twisted, crimped, or pinched under any operating condition.

2.6.10 Sensing Lines. The sensing lines for the Type III system shall be located on reels next to the hydrant hose. The reel shall be the spring rewind type. The hose shall be at least 50 feet long. The reel

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shall be equipped with arresting features for making random stop at any position. Provisions shall be made to prevent the last 1/2 turn of hose from unwinding and a ball stop shall be provided to prevent overwind.

2.6.11 Deadman Control System. A deadman control system shall be provided in accordance with NFPA 407 and as specified herein. The system shall stop flow to and from the aircraft within two seconds and shall have an opening time to full flow of 5 seconds minimum. The deadman shall stop the flow of fuel by closing the hydrant pit valve and by closing a valve downstream of the hydrant coupler. If an inline control valve is provided, it shall be utilized as the valve downstream of the hydrant coupler. The deadman system shall be positioned so the control handle can be operated from the control panel, ground discharge reels and raised lift platform. The deadman control lever shall be operable by an operator wearing arctic type mittens. If an electrical deadman system is provided, it shall be certified as intrinsically safe and shall incorporate a timer system for continuous operator input. A spring rewind type reel with arresting feature for making intermediate position stops shall be provided. A ball stop shall be provided on the deadman hose near the deadman control lever to prevent overwind of the deadman hose. A rewind reel is not required for an electrical deadman, however provisions for storage of the cable shall be provided. When the hydrant truck is supplied with defuel capability, deactivation of the deadman control system shall reduce engine speed to idle regardless of the position of the auxiliary throttle.

2.6.12 Operator's Controls, Instrumentation. A control panel shall be located on the driver's side of the vehicle adjacent to the ground discharge reels. The control panel shall be fully illuminated for night servicing operations. All components on the panel shall be weather proof. The primary and secondary pressure regulators shall incorporate covers or other such measures to prevent unauthorized adjustments. The panel shall contain as a minimum the following components:

- a. Auxiliary Throttle (When defuel is specified)
- b. Tachometer/Hourmeter
- c. Emergency Engine Shutoff Switch
- d. Differential Pressure Gauge
- e. Nozzle Pressure Gauges (Ground Discharge and Lift Platform when equipped)
- f. Pump Discharge Pressure Gauge (When defuel is specified)
- g. Hydrant Inlet Pressure Gauge
- h. Surge suppresser Gauges
- i. Surge suppresser fill connections
- j. Primary and secondary air pressure regulators
- k. Primary and secondary pressure regulator gauges
- l. Fueling Mode Selector (if required)

2.6.12.1 Auxiliary throttle. When defuel capability is specified, an auxiliary throttle shall be provided for control of engine speed during all defueling system operations. The throttle shall allow the operator to control the engine at any desired speed, from idle through maximum rated pump speed, but shall not allow maximum rated pump speed to be exceeded. The throttle shall incorporate a mechanism to allow the throttle to be locked at any desired setting. The mechanism shall be designed such that the operator can quickly return the engine to idle speed.

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2.6.12.2 Engine Shutoff switch. The control panel shall incorporate an engine emergency manual cutoff to provide for immediate and complete shutdown of the truck engine under any operating condition without the use of any other control. The switch shall be marked by a red circle at least one inch in diameter.

2.6.12.3 Pressure Gauges. All pressure gauges shall incorporate restriction devices (orifices) or other mechanisms as required to dampen oscillations and provide stability of the indicating needle. The gauges shall be accurate to within 1 psi and capable of withstanding 1 1/2 times the maximum working pressure. The differential pressure gauge shall be a piston type gauge. All gauges shall be marked with a red line as to the maximum safe operating limit. Gauges shall be graduated in 1 psi increments for nozzle pressure and differential pressure gauges and no less than 5 psi increments for hydrant and pump discharge gauges with a scale of at least 1 1/2 the normal working pressure of the system that the gauge monitors. They shall all be a minimum of 4 inches in diameter and marked as to their function. (SINGLE POINT NOZZLE PRESSURE, PUMP DISCHARGE PRESSURE, FILTER DIFFERENTIAL PRESSURE).

2.6.12.4 Pilot control valves. All flow and pressure control system pilot valves shall be located so that a mechanic can observe the control panel gauges, operate the controls, and adjust the pilot valves while standing on the ground. The pilot valves shall be covered with a sheet metal cover attached by screws and lockplates, hinges, or quick locking devices to prevent unauthorized adjustments to the pumping system. The panel shall be removable by a mechanic within one minute.

2.6.13 Emergency Shutdown. Emergency shut-off controls shall be installed on the hydrant truck fuel control system. The emergency shut-off shall be manually operated and operate regardless of the deadman position. The emergency shut-off shall stop the flow of fuel to the aircraft as well as the flow of fuel from the hydrant system. Emergency shut-off controls shall be located at the control panel, on the passengers side of the vehicle opposite the control panel and when lift platform is specified, on the gauge panel of the lift platform. The emergency shut-off controls shall stop the flow of fuel within 2 seconds of activation.

2.6.14 Fuel Recovery Tank. A sump tank of sufficient size (24 hours of operational use) to allow for thermal expansion of fuel and fuel from the fuel filtration system air eliminator shall be provided. The tank shall be equipped with relief valves and vents as necessary for safe operation. The sump tank shall be equipped with a manual drain valve to allow for complete draining of the tank. An automatic emptying system to empty the fuel recovery tank during fueling operations shall be provided and shall incorporate a full tank shut-down system. The automatic emptying system shall not utilize an electrically driven pump and shall not allow the backflow of fuel into the sump tank when not in use. The automatic emptying system shall inject the fuel up-stream of the fuel filtration system. The system shall also incorporate a deadman type button/switch to allow the manual operation of the automatic emptying system. The system shall drain the contents of the tank within ten minutes and shall not allow the dumping of fuel on the ground. The automatic emptying system shall operate only when the deadman control is actuated. A gauge shall be provided on the tank to monitor the level of fuel and shall be readable by the operator standing on the ground.

2.6.15 Sampling Devices. The main flow system shall be equipped with two sampling connections; one upstream of the filter separator near the hydrant hose outlet, the other downstream of the filter near the discharge hoses. If possible, the sampling devices should be located in a vertical pipe. The sampling device nipple shall extend at least 1/4 inch beyond the inside wall of the pipe from which the sample is obtained. Adequate space shall be provided to permit connection of the Millipore Corporation, Bedford, MA 01730, fluid sampling kit, catalog No. XX64 037 00, for solid and water samples. Each sampling device shall consist of the following:



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- a. Nipple, 1/4-inch nominal schedule 40, aluminum pipe 2 inches long with one end threaded with 1/4-18 NPT.
- b. Valve, ball-type, 1/4 inch, internal 1/4-18 NPT both ends; aluminum-alloy body; highly polished, stainless-steel ball; 300 series stainless-steel stem; teflon seals; zinc plated malleable iron handle; zinc-plated carbon steel handle where the zinc-plated carbon steel handle stops; quarter turn of handle where the valve goes from full open to full close; handle stops limit rotation to  $90 \pm 5$  degrees; pressure loss shall not exceed 1.1 psig at 1.1 GPM of water.
- c. Quick-disconnect, Snap-Tite Inc., part no. SPEAC4-4F (JF), manufactured by Snap-Tite, Incorporated, Titusville Road, Union City, PA 16438, or a coupling of equal construction and characteristics, which shall connect to the sampling kit quick-disconnect.
- d. Dust plug, Snap-Tite, Inc., part no. AMPE-4, manufactured by Snap-Tite, Inc., or equal, to fit the SPEAC4-4F (JF) quick-disconnect with a 1/16-inch diameter security wire rope made from corrosion resistant steel.
- e. Teflon tape shall be used on the threads that connect the nipple, valve and quick-disconnect.

2.6.16 Static discharge grounding reels. Two Type I static discharge grounding reels in accordance with A-A-50696 shall be provided. One grounding reel shall be provided with a welder style grip clamp and the other grounding reel shall be provided with a ground plug. The reels shall be installed side-by-side with their bases in a horizontal or vertical position in a readily accessible location near the hydrant reel. The reels shall be bolted to the truck, with a resistance between each reel and the chassis frame of not more than 0.5 ohm.

2.7 Electromagnetic interference (EMI). The hydrant truck shall comply with the EMI emission requirements of SAE J551-2. The hydrant truck shall be tested for EMI susceptibility per the requirements of SAE J551-11. The test severity levels shall be as referenced except that all class C functions shall fall within Region I. All applicable requirements of SAE J551-1 shall be complied with.

## 2.8 Sound levels.

2.8.1 Truck cab interior sound level. The interior sound level shall be in accordance with the requirements of the Federal Motor Carrier Safety Regulations (49 CFR 393.94) for vehicle interior noise level.

2.8.2 Pumping operation sound levels. The maximum A-weighted sound levels produced by the truck during pumping operations shall not exceed 84 dBA at a distance of 15 feet from the geometric center of the truck cab and at the operator's position in front of the pumping control panel. An additional 2 dBA allowance over this sound level limit shall be permitted for production units to provide for variation in test site, temperature gradients, test equipment, and inherent differences in nominally identical vehicles.

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2.9 Air Transportability. The vehicle shall be air transportable without shoring in accordance with MIL-STD-1791 in Types C-130, C-141, and C-5 Aircraft and shall be air transportable in a Type C-17 Aircraft. Preliminary design guidelines for the Type C-17 are 142 inches maximum height, 204 inches maximum width, 812 inches maximum length, 9° ramp angle, and floor load capacity equal to that allowed for the Type C-5 Aircraft.

2.10 Fire Extinguishers. Two type I, Class 1, size 20 fire extinguishers in accordance with A-A-393 shall be provided with holding brackets. One fire extinguisher shall be mounted vertically on each side of the truck. Protection from mud and splashing water shall be provided. The extinguishers shall be readily accessible to personnel standing on the ground.

2.11 Wheel Chock Storage Container. A wheel chock storage container 24 inches long, 10 inches deep and 6 inches high; shall be furnished and installed in a space located on the driver's side in an easily accessible location. The bottom of container shall be smooth and have drainage holes. The container shall be designed for easy removal and storage of wheel chocks without allowing the chocks to fall out during road operation.

2.12 Finish. Unless otherwise specified (see 6.1), the outer surface of the vehicle and the interior surfaces of compartments shall be painted with two part polyurethane paint or other type approved by the procuring activity, forest green, color number 14052 of FED-STD-595. All exterior trim (such as wheels, wheel covers, running boards, metal radiator grilles, bumpers, headlight trim rings, door handles, and drip rails) shall match the exterior color of vehicle. The chassis frame and running gear may be black. The engine and transmission and other components not visible during operation of the vehicle may be the manufacturer's original color.

2.13 Rustproofing. The vehicle chassis and cab shall be rustproofed and undercoated in accordance with FED-STD-297. The level of corrosion treatment shall be tropical and the use of proprietary material shall require Government approval.

2.14 Markings and Data Plates. Markings and data plates shall be as follows.

2.14.1 Markings. The truck shall be marked as specified by NFPA 407 in block type red reflectorized letters. In addition to the markings required by NFPA 407, "NO SMOKING WITHIN 50 FT" shall be applied in four inch block type red reflectorized letters on each cab door and on the rear of the vehicle.

2.14.2 NO SMOKING Label. A "NO SMOKING" label shall be attached in the cab in a highly visible location.

2.14.3 Hazardous material labels. Four DOT hazardous materials, Number 1863, shall be mounted on the vehicle, one on the front, rear, left, and right side of the vehicle. The placards shall be installed in placard holders.

2.14.4 Nameplates and operating instructions. Nameplates and operating instruction plates shall be as follows.

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2.14.4.1 Nameplates. Equipment, assemblies, gauges, and parts shall be marked for identification with anodized aluminum plates. A nameplate containing the following information shall be mounted in the cab; except for the serial number, vehicle registration number, and date of delivery, which may be stamped, all data shall be inscribed.

Make and Model

Serial Number

Vehicle Registration Number

National Stock Number

Contract Number

Rated Flow Rate

Date of Delivery

Vehicle Weight, Unloaded (Pounds)

Gross Vehicle Weight (Pounds)

Fuel Type

Oil, Engine, Above 32°F            SAE Grade

Oil, Engine, Below 32°F SAE Grade

2.14.4.2 Control markings. All controls, valves, gauges, and indicators used in the operation of the vehicle shall be identified by securely attached nameplates of such construction that exposure to oil, dirt, light, et cetera, will neither fade nor eradicate them. Tags or decals shall not be used.

2.14.4.3 Operating instructions and data plates. All data plates, placards, charts, instruction plates, et cetera, shall utilize anodized aluminum plates of a size and shape consistent with the information required thereon.

2.14.4.3.1 Diagrams. Schematic diagrams of the piping and electrical systems shall be provided. Each valve, switch, et cetera, on the diagram shall be properly identified to correspond to the markings on like parts on the truck.

2.14.4.3.2 Operating instructions. Brief operating and precautionary instructions shall be permanently affixed near the appropriate system control panel. The instructions shall be clear, concise, and adequate to enable operation of the vehicle without damage to the equipment or injury to personnel, and shall refer to the components as identified on the schematic diagrams.

2.14.4.3.3 Lubrication plate. A lubrication plate shall be provided directing attention to all lubrication fittings and components which require lubrication. The plate shall identify the type and grade of lubricant required for all operational temperatures.

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2.14.4.3.4 Transportation data plate. A transportation data plate shall be provided. The plate shall contain at least the following information:

- a. Side and rear silhouette views of the vehicle.
- b. Horizontal and vertical location of the center-of-gravity of the vehicle in air transportable configuration, marked on the silhouette views.
- c. Shipping weight.
- d. Loading cubage.
- e. Overall height, width, and length.
- f. Front and rear axle loads

### **3. REGULATORY REQUIREMENTS.**

3.1 Recovered Materials. The offeror/contractor is encouraged to use recovered materials in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

### **4. QUALITY ASSURANCE PROVISIONS.**

4.1 Product Conformance. The product provided shall meet the salient characteristics of this Commercial Item Description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be substantially the same product offered for sale in the commercial market. The government reserves the right to require proof of such conformance.

4.2 Commercial item requirement. The vehicle furnished must meet the "commercial item" definition, as specified in FAR 2.101, as of the date of award. The offeror/contractor shall provide two copies of their commercial, descriptive catalogs with their offer, as specified in Clause I106. The offeror/contractor shall identify all modifications made to their commercial model in order to meet the performance and descriptive requirements of the CID or the referenced documents. In regard to the offered item, the offeror/contractor shall identify any/all variations from compliance with or modifications to the performance requirements of the CID or the referenced documents.

4.3 Contractor requirements. The contractor shall provide copies of the truck manuals for review 30 days prior to the time of tests or demonstration of the first truck. The contractor's parts manuals shall list the part numbers for contractor manufactured parts, plus the part numbers for purchased sub-level components and whole components. The contractor shall also provide with each truck a product familiarization video tape that verbally and visually provides all information for the operation and routine maintenance of the truck and its components, using the commercial manuals as a baseline.

4.4 Verification. Prior to delivery of the first truck, the contractor shall demonstrate or test, at his facility, each requirement of the CID or referenced documents, prior to delivery.

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4.5 Reconfiguration Criteria. Failure to comply with the requirements of this CID, reference documents, or the tests shall be cause for reconfiguration and re-demonstration. Causes for reconfiguration shall include: structural failure; non-correctable misalignments; component interference; conditions presenting a safety hazard to the user or maintainer: instability during operation; spillage of fuel or coolant; and overheating.

4.6 Examination of product. A check list of specific requirements from this CID and the referenced documents shall be compared to the final configuration of the hydrant truck. Where specific certifications are required, copies shall be provided.

4.7 Delivery test. Each truck shall be flow tested to demonstrate compliance with the flow and pressure control requirements of this CID. The truck shall be driven over 20 miles of paved road.

## 5. PACKAGING.

5.1 Preservation and packaging. Preservation and packaging shall be as specified in the contract.

## 6. NOTES.

6.1 Options: The purchaser shall specify the following at time of purchase:

- a. If defuel capability is required , (see 2.6.2).
- b. If lift platform is required, (see 2.6.3)
- c. If a filter separator is required in place of a full flow fuel monitor, (see 2.6.4).
- d. If D-2 style nozzles are required for ground discharge hoses, (see 2.6.8).
- e. Finish color other 14052 of Fed-Std-595, (see 2.12).

6.2 Recovered materials. For the purpose of this requirement, recovered materials are those materials that have been collected from solid waste and reprocessed to become a source of raw materials, as distinguished from virgin raw materials. The components, pieces and parts incorporated in the vehicle may be newly fabricated from recovered materials to the maximum extent practicable, provided the vehicle produced meets all other requirements of this CID. Used, rebuilt or re-manufactured components, pieces and parts shall not be incorporated.

6.3 Type III Systems. The type III system is an "on demand" type system which maintains a constant pressure of approximately 65 psi. When pressure starts to drop, additional pumps activate. Flow rates of 1200 GPM are possible with pressures ranging from 60 to 150 psi. Aircraft servicing pressure is controlled by a control valve mounted in the hydrant pit. The control valve receives sensing pressure (fuel) and air pressure from the hydrant hose truck. Defueling is accomplished by using the pump on the hose truck to overcome the hydrant pressure.

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MILITARY INTERESTS:

CUSTODIANS:  
Air Force - 99

PREPARING ACTIVITY:  
Air Force - 84

PROJECT NUMBER 2320-0747

CIVIL AGENCY COORDINATING ACTIVITY:  
GSA – FSS

# STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

## INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

### I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER  
A-A-59259

2. DOCUMENT DATE (YYMMDD)  
980630

TRUCK, AIRCRAFT REFUELING, HYDRANT

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

### 5. REASON FOR RECOMMENDATION

### 6. SUBMITTER

a. NAME (Last, First, Middle Initial)

b. ORGANIZATION

c. ADDRESS (Include Zip Code)

d. TELEPHONE (Include Area Code)  
(1) Commercial  
(2) AUTOVON  
(if applicable)

7. DATE SUBMITTED  
(YYMMDD)

### 8. PREPARING ACTIVITY

a. NAME

WR-ALC/LER

b. TELEPHONE (Include Area Code)

(1) Commercial  
(912) 926-6488 X199

(2) AUTOVON  
468-6488 X199

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